

Request for City Council Committee Action from the Department of Public Works

To:	Honorable Sandra Colvin Roy, Chair Transportation & Public Works Committee	
Subject:	Climate Adaptation Study Update	
Recommendation:		
	Receive and file the presentation	
Previous Directives: None		
Department Information:		
Prepared by: Lois Eberhart, Water Resources Administrator, Surface Water & Sewers Lisa Cerney, P.E., Director of Surface Water & Sewers		
Approved by:		
	Steven A. Kotke, P.E., Director of Public Works	
Presenters in Committee: Lois Eberhart		
 Civil Rights Approval 		Approval Date Approval Date Approval Date
 Financial Impact No financial impact Action is within the Business Plan 		

Community Impact

May 14, 2013

Date:

- Neighborhood Notification: : Newsletters and meeting announcements have been seen to all neighborhood organizations, as well as other interested parties
- City Goals: A Safe Place To Call Home -- quality of life; a healthy environment; the city's infrastructure will be well-maintained. Enriched Environment -- plentiful green spaces; lakes, rivers and the soil and air will be clean. A Premier Destination -- the country will see Minneapolis as a national treasure.
- Comprehensive Plan
- Zoning Code
- Other

Supporting Information

Minneapolis Public Works has been participating in a two-year study, funded by the National Oceanic and Atmospheric Administration (NOAA), called Weather Extreme Trends (WET) Project, Minnehaha Creek Watershed Stormwater Adaption Study.

The focus of the study has been to engage the public in considering implications for Minnehaha Creek, our lakes, and our stormwater infrastructure of extreme weather events – both storms and drought. The study is projecting into the future using several climate models, or scenarios, to anticipate possible trends in the weather. A variety of model scenarios has been generated, using past weather data, climate change models, and stormwater runoff information about a portion of the City of Minneapolis that drains to Minnehaha Creek. Lessons learned from this study will also be helpful for other areas of the city and the region.

The other city that has been participating in the study is Victoria. Thus the study is comparing implications of extreme weather events in an area of Minneapolis that is essentially fully developed and stable in land use, with Victoria, a city that is undergoing considerable development and land use changes.

There has been a public outreach component to the study, to develop stakeholder awareness and understanding of climate change and stormwater adaptation planning. There was a Stakeholder Forum on May 15, 2012. Follow-up sessions were held with forum attendees that were interested in participating in smaller workgroups. The workgroup sessions, held on in September 2012 and January 2013 involved four topics, as follows:

Education, Outreach, and Stakeholder Engagement

Identify strategies to increase awareness of stormwater management issues and changing precipitation patterns, educate participants about infrastructure vulnerabilities, long term needs and options.

Land Use, Planning and Policy

Identify how changing precipitation patterns can inform stormwater infrastructure design, create guidelines for future development, identify opportunities for green infrastructure and low impact development options, and how to communicate needed changes in land use planning among stakeholders.

Stormwater Infrastructure (Green/Grey) and Low Impact Development

Identify strategies to assess current infrastructure and needed upgrades, reducing and disconnecting impervious surfaces, increasing storage and stormwater reuse, protecting and enhancing vegetative cover for water quality and flood control, and how to communicate options related to stormwater infrastructure and low impact development.

Sustainable Funding for Stormwater Infrastructure

Assess funding needs – both immediate and long term – for updating infrastructure, economic impacts of decisions made, and finding opportunities for funding proactive stormwater management adaptation.

For the study, three commonly used global climate models were downscaled to a regional level, to create three scenarios to apply to two study areas, one in Minneapolis and one in Victoria. The Minneapolis study area was a 1,000-acre rainwater catchment area that discharges runoff to Lake Hiawatha (see map). A global climate model is like a weather prediction for the future, using a high number of variables and assumptions. Of course anticipating the weather years from now involves a high degree of uncertainty, however the

study has used this approach to assist with early discussions about adaptation planning, land use planning, stormwater management system strategies, and funding implications.

The three scenarios were labeled Mid-21st Century Optimistic, Mid-21st Century Moderate, and Mid-21st Century Pessimistic. The large catchment area that discharges its runoff to Lake Hiawatha was chosen because of its size and because several flood mitigation projects have already been constructed in the area, so a considerable amount of data and modeling information already exists.

The study is being led by Syntectic International of Portland OR. Other researchers are from Antioch University New England and the University of Minnesota. Public Works staff are members of the core project team. Funding is through the Sectoral Applications Research Program (SARP) of the National Oceanographic and Atmospheric Administration (NOAA).

The public outreach strategy has been led by staff from the Minnehaha Creek Watershed District. An extensive email and mailing list was established for newsletters and meeting updates. The final report from the researchers is expected in June 2013. The study will also be presented in a half-day workshop at the International Low Impact Development Symposium that is being held in the Twin Cities August 18 to 21, at the Saint Paul RiverCentre. Symposium information can be found at the following web site:

http://www.cce.umn.edu/2013-International-Low-Impact-Development-Symposium/index.html

Attachments: Minneapolis study area map

Fact Sheet